



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DRAFT SPECIAL EXCEPTION November 20, 2019
TO WITHDRAW GROUNDWATER IN THE
EASTERN VIRGINIA GROUNDWATER MANAGEMENT AREA

DRAFT Special Exception Number: GW0078700

Effective Date: XXXXXXXX XX, 20XX

Expiration Date: XXXXXXXX XX, 20XX

Pursuant to the Ground Water Management Act of 1992 (Section 62.1-254 et seq. of the Code of Virginia) and the Groundwater Withdrawal Regulations (Regulations) (9VAC25-610), the State Water Control Board (Board) hereby authorizes the Special Exception Holder to withdraw and use groundwater in accordance with this Special Exception.

Responsible Party Chickahominy Power LLC
Facility Chickahominy Power
Facility Location 6721 Chambers Road, Charles City, VA 20203

The authorized groundwater withdrawal shall not exceed:

30,000,000 gallons per year,
3,500,000 gallons per month.

The withdrawal will be used for non-potable uses during construction and for evaporative cooling, boiler makeup and other non-potable process needs. Other uses are not authorized by this Special Exception.

The Special Exception Holder shall comply with all conditions and requirements within.

By direction of the State Water Control Board, this Special Exception is granted by:

Signed _____ Date _____

Director, Office of Water Supply

This Special Exception is based on Chickahominy Powers LLC's application submitted on November 14, 2018 and subsequently amended to include supplemental information provided. The following are conditions that govern the system set-up and operation, monitoring, reporting, and recordkeeping pertinent to the Regulations.

Part I Operating Conditions

A. Authorized Withdrawal

1. The withdrawal of groundwater shall be limited to the following wells identified in the table below. Withdrawals from wells not included in Table 1 are not authorized by this Special Exception and are therefore prohibited. 9VAC25-610-140 A

Table 1

Owner Well Name	DEQ Well #	Well Depth (ft bls)	Screen Intervals	Aquifer	Latitude	Longitude	Datum
CP-1	118-00185	*	*	Potomac	*	*	*
CP-2	118-00186	*	*	Potomac	*	*	*

* Well information is not available since the wells have not been constructed at the time of Special Exception issuance. The Special Exception holder shall submit well construction information in accordance with Part III K of this Special Exception and a Minor Modification of the permit will be necessary to include the well information.

2. Any actions that result in a change to the status, construction, or pump intake setting of wells included in this Special Exception must be pre-approved by the Department of Environmental Quality (Department) in writing prior to implementing the change and a revised GW-2 Form must be submitted to the Department within 30 days after the physical construction of a well is altered or the pump intake setting has been changed. If changes are a result of an emergency, notify the Department within 5 days from the change. 9VAC25-610-140 C
3. In accordance with Part III J 1 of this Special Exception, the holder of this Special Exception shall obtain a minor modification to incorporate well construction information into this permit for wells CP-1 (DEQ# 118-00185) and CP-2 (DEQ# 118-00186) within 30 days of well construction completion.

B. Pump Intake Settings

1. The Special Exception Holder shall not place a pump or water intake device lower than the top of the uppermost confined aquifer that a well utilizes as a groundwater source or lower than the bottom of an unconfined aquifer that a well utilizes as a groundwater source in order to prevent dewatering of the aquifer, loss of inelastic storage, or damage to the aquifer from compaction. 9VAC25-610-140 A

2. Pump settings in individual wells are limited as follows. Any change in the pump setting must receive prior approval by the Department.

Owner Well Name	DEQ Well #	Max Pump Setting (feet below land surface)
CP-1	118-00185	*260
CP-2	118-00186	*260

*Max pump settings were estimated based on a previous determination of Max Pump Setting for terminated permit GW0005400. Following the collection of the geophysical log data required by this Special Exception, updated site-specific maximum pump setting depths will be provided by the Department to replace these estimated limits.

C. Reporting

1. Water withdrawn from each well shall be recorded monthly at the end of each month and reported to the Office of Water Supply, in paper or electronic format, on a form provided by the Department by the tenth (10th) day of each January, April, July and October for the respective previous calendar quarter. Records of water use shall be maintained in accordance with Part III.F, 1 through 5 of this Special Exception. 9VAC25-610-140 A 9
2. The Special Exception Holder shall report any amount in excess of the authorized withdrawal limit by the fifth (5th) day of the month following the month when such a withdrawal occurred. Failure to report may result in compliance or enforcement activities. 9VAC25-610-140 C
3. The following is a summary of reporting requirements for specific facility wells:

Owner Well Name	DEQ Well #	Reporting Requirements
CP-1	118-00185	Water Use
CP-2	118-00186	Water Use

D. Water Conservation and Management Plan

1. The Water Conservation and Management Plan (WCMP) submitted in the application received dated November 14, 2018 and subsequently amended and then approved by the Department is incorporated by reference into this Special Exception and shall have the same effect as any condition contained in this Special Exception and may be enforced as such.
2. By the end of the first year following the initiation of water withdrawals under the Special Exception cycle, documentation shall be submitted to the Department demonstrating that the leak detection and repair program defined in the WCMP has been initiated. This documentation shall include activities completed during the first year following the initiation of water withdrawals. 9VAC25-610-100 B
3. As soon as completed but no later than the end of the second year following the initiation of water withdrawals under the Special Exception cycle, an audit of the total amount of groundwater used in the distribution system and operational processes shall be submitted to the Department. This documentation shall include any resulting changes to the leak detection and repair program in the WCMP. 9VAC25-610-100 B

4. A report on the plan's effectiveness in reducing water use, including revisions to those elements of the WCMP that can be improved and addition of other elements found to be effective based on operations to date shall be submitted by the end of fourth year following the initiation of water withdrawals under the Special Exception. These reports shall include as appropriate: 9VAC25-610-140 C
 - a. Any new water saving equipment installed or water saving processes adopted;
 - b. WCMP actions taken to reduce the volume of water needed to supply the system;
 - c. Planned short or long-term efforts and actions to be added to the WCMP to improve the efficiency of water use in the system or by customers and for reducing the loss of water;
 - d. Results of additional water audits completed;
 - e. Review of water use category (residential, commercial, industrial) per-connection use in municipal systems;
 - f. Evaluation of the leak detection and repair program;
 - g. Description of educational activities completed; and
 - h. Identification of any water reuse opportunities identified.
5. If revisions or additions to the plan are necessary an updated WCMP shall be submitted to the Department for approval along with the report prior to implementation of the revised plan.
6. Records of activities conducted pursuant to the WCMP are to be submitted to DEQ upon request.

E. Mitigation Plan

The Mitigation Plan approved on January 25, 2019 by the Department is incorporated by reference into this Special Exception and shall have the same effect as any condition contained in this Special Exception and may be enforced as such. 9VAC25-610-110 D 3 g

F. Well Tags

1. Each well that is included in this Special Exception shall have affixed to the well casing, in a prominent place, a permanent well identification plate that records, at a minimum, the DEQ well identification number, the groundwater withdrawal Special Exception number, the total depth of the well, and the screened intervals in the well. Such well identification plates shall be in a format specified by the Board and are available from the Department. 9VAC25-610-140 A 12
2. Well tags shall be affixed to the appropriate well casing within 30 days of receiving the tags from the Department. The accompanying well tag installation certification form shall be returned to the Department within 60 days of receipt of the tags. 9VAC25-610-140 C

Part II Special Conditions

Pursuant to 9VAC25-610-140 B and C, the following Special Conditions apply to this Special Exception in order to protect the public welfare, safety, and health or conserve, protect and help ensure the beneficial use of groundwater.

A. Well Construction

The Special Exception Holder shall construct Wells CP-1 (DEQ # 118-00185) and CP-2 (DEQ# 118-00186) in the Potomac Aquifer. Construction shall be completed in accordance with Part III Condition K of this Special Exception.

B. Pump Intake Reset

The Special Exception Holder shall set the pump intake for Wells CP-1 (DEQ # 118-00185) and CP-2 (DEQ# 118-00186) to no lower than the top of the Potomac Aquifer as determined by Department staff based on new geophysical log data obtained by the Special Exception Holder in accordance with Part III K 3 of this Special Exception. The Special Exception Holder shall submit documentation from a certified well provider, or other source as approved by the Department, that the pump intake for each production well is set above the setting stated in the Department determination. The Special Exception Holder shall advise DEQ, in writing, of the new pump setting within 30 days of setting the pump.

C. Well Abandonment

By [SPECIAL EXCEPTION EXPIRATION DATE], the Special Exception Holder shall permanently abandon Wells CP-1 (DEQ # 118-00185) and CP-2 (DEQ# 118-00186) in accordance with the Virginia Department of Health's Regulations and submit documentation to the Department within 30 days of abandonment. At least two weeks prior to the scheduled abandonment, the Special Exception Holder shall notify the Department of the scheduled abandonment date.

D. Alternative Source Development Report

By April 1 of each year, Chickahominy Power shall submit to the Department an annual progress report summarizing all completed, ongoing, and future efforts to connect to the New Kent County conjunctive use water supply prior to the expiration of the Special Exception.

Part III General Conditions

A. Duty to Comply

The Special Exception Holder shall comply with all conditions of the Special Exception. Nothing in this Special Exception shall be construed to relieve the Special Exception Holder of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any Special Exception violation is a violation of the law and is grounds for enforcement action, Special Exception termination, revocation, modification, or denial of a Special Exception application. 9VAC25-610-130 A

B. Duty to Cease or Confine Activity

It shall not be a defense for a Special Exception Holder in an enforcement action that it would have been necessary to halt or reduce the activity for which a Special Exception has been granted in order to maintain compliance with the conditions of the Special Exception. 9VAC25-610-130 B

C. Duty to Mitigate

The Special Exception Holder shall take all reasonable steps to avoid all adverse impacts that may result from this withdrawal as defined in 9VAC25-610-10 and provide mitigation of the adverse impact when necessary as described in 9VAC25-610-110 D 3 g and 9VAC25-610-130 C

D. Inspection, Entry, and Information Requests

Upon presentation of credentials, the Special Exception Holder shall allow the Board, the Department, or any duly authorized agent of the Board, at reasonable times and under reasonable circumstances, to enter upon the Special Exception Holder's property, public or private, and have access to, inspect and copy any records that must be kept as part of the Special Exception conditions, and to inspect any facilities, well(s), water supply system, operations, or practices (including sampling, monitoring and withdrawal) regulated or required under the Special Exception. For the purpose of this section, the time for inspection shall be deemed reasonable during regular business hours. Nothing contained herein shall make an inspection time unreasonable during an emergency. 9VAC25-610-130 D

E. Duty to Provide Information

The Special Exception Holder shall furnish to the Board or Department, within a reasonable time, any information that the Board may request to determine whether cause exists for modifying or revoking or terminating the Special Exception, or to determine compliance with the Special Exception. The Special Exception Holder shall also furnish to the Board or Department, upon request, copies of records required to be kept by regulation or this Special Exception. 9VAC25-610-130 E

F. Monitoring and Records Requirements

1. The Special Exception Holder shall maintain a copy of the Special Exception on-site and/or shall make the Special Exception available upon request. 9VAC25-610-130 E

2. Monitoring of parameters shall be conducted according to approved analytical methods as specified in the Special Exception. 9VAC25-610-130 F 1
3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. 9VAC25-610-130 F 2
4. The Special Exception Holder shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the Special Exception, and records of all data used to complete the application for the Special Exception, for a period of at least three years from the date of the expiration of a granted Special Exception. This period may be extended by request of the Board at any time. 9VAC25-610-130 F 3
5. Records of monitoring information shall include as appropriate: 9VAC25-610-130 F 4
 - a. the date, exact place and time of sampling or measurements;
 - b. the name(s) of the individual(s) who performed the sampling or measurements;
 - c. the date the analyses were performed;
 - d. the name(s) of the individual(s) who performed the analyses;
 - e. the analytical techniques or methods supporting the information, such as observations,
 - f. readings, calculations and bench data used;
 - g. the results of such analyses; and
 - h. chain of custody documentation.

G. Environmental Laboratory Certification

The Special Exception Holder shall comply with the requirement for certification of laboratories conducting any tests, analyses, measurements, or monitoring required pursuant to the State Water Control Law (§ 62.1-44.2 et seq. of the Code of Virginia), Environmental Laboratory Certification Program (§ 2.2-1105 et seq. of the Code of Virginia), Certification for Noncommercial Environmental Laboratories (1VAC30-45), and/or Accreditation for Commercial Environmental Laboratories (1VAC30-46), and

- a. Ensure that all samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Conduct monitoring according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency.

- c. Periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements. 1VAC30-45-20

H. Future Special Exception Actions

1. A Special Exception may be modified or revoked as set forth in Part VI of the Groundwater Withdrawal Regulations. 9VAC25-610-290 and 9VAC25-610-130 G
2. If a Special Exception Holder files a request for Special Exception modification or revocation, or files a notification of planned changes, or anticipated noncompliance, the Special Exception terms and conditions shall remain effective until the Board makes a final case decision. This provision shall not be used to extend the expiration date of the effective Special Exception. 9VAC25-610-130 G
3. Special Exceptions may be modified or revoked upon the request of the Special Exception Holder, or upon Board initiative, to reflect the requirements of any changes in the statutes or regulations. 9VAC25-610-130 G
4. The Special Exception Holder must notify the Department in writing of any changes to owner and facility contact information within 30 days of the change. 9VAC25-610-140 C

I. Metering and Equipment Requirements

1. Each well and/or impoundment or impoundment system shall have an in-line totalizing flow meter to read gallons, cubic feet, or cubic meters installed prior to beginning the authorized use. Meters shall produce volume determinations within plus or minus 10% of actual flows. 9VAC25-610-140 A 7 b
 - a. A defective meter or other device must be repaired or replaced within 30 days.
 - b. A defective meter is not grounds for not reporting withdrawals. During any period when a meter is defective, generally accepted engineering methods shall be used to estimate withdrawals. The period during which the meter was defective must be clearly identified in the groundwater withdrawal report required by Part I, Subsection D of this Special Exception. An alternative method for determining flow may be approved by the Board on a case-by-case basis.
2. Each well shall be equipped in a manner such that water levels can be measured during pumping and non-pumping periods without dismantling any equipment. Any opening for tape measurement of water levels shall have an inside diameter of at least 0.5 inches and be sealed by a removable plug or cap. The Special Exception Holder shall provide a tap for taking raw water samples from each authorized well. 9VAC25-610-140 A 7 e

J. Minor Modifications

1. A minor modification to this Special Exception must be made to replace an existing well(s) or add an additional well(s) provided that the well(s) is screened in the same aquifer(s) as the existing well(s), and is in the near vicinity of the existing well(s), the total groundwater withdrawal does not increase, the area of impact does not increase, and the well has been approved by the Department

prior to construction. 9VAC25-610-330 B 4 and 5

2. A minor modification to this Special Exception must be made to combine withdrawals governed by multiple permits when the systems are physically connected as long as interconnection will not result in additional groundwater withdrawal and the area of impact will not increase. 9VAC25-610-330 B 6
3. Minor modifications to this Special Exception must also be made to:
 - a. Change an interim compliance date up to 120 days from the original compliance date, as long as the change does not interfere with the final compliance date. 9VAC25-610-330 B 7
 - b. Allow for change in ownership when the Board determines no other change in the Special Exception is necessary and the appropriate written agreements are provided in accordance with the transferability of permits and Special Exceptions. 9VAC25-610-320 and 9VAC25-610-330 B 8
 - c. Revise a Water Conservation and Management Plan to update conservation measures being implemented by the Special Exception Holder that increase the amount of groundwater conserved. 9VAC25-610-330 B 9

K. Well Construction

At least two months prior to the scheduled construction of any well(s), the Special Exception Holder shall notify the Department of the construction timetable and receive prior approval of the well(s) location(s) and acquire the DEQ Well number. All wells shall be constructed in accordance with the following requirements.

1. A well site approval letter or well construction permit must be obtained from the Virginia Department of Health prior to construction of the well. 9VAC25-610-130 A
2. A complete suite of geophysical logs (Spontaneous Potential, Single Point Resistance, 16/64 Short and Long Normal, Natural Gamma at a scale of 20 ft. per inch) shall be completed for the well and submitted to the Department along with the corresponding completion report. 9VAC25-610-140 C
3. The Special Exception Holder shall evaluate the geophysical log and driller's log information to estimate the top of the target aquifer and; therefore, a depth below which the pump shall not be set. The Special Exception Holder's determination of the top of the target aquifer shall be submitted to the Department for review and approval, or approved on site by the Department's Groundwater Characterization staff, prior to installation of any pump. 9VAC25-610-140 A 6
4. The Special Exception Holder shall install gravel packs and grout in a manner that prevents leakance between aquifers. Gravel pack shall be terminated close to the top of the well screen(s) and shall not extend above the top of the target aquifer. 9VAC25-610-140 C
5. A completed GW-2 Form and any additional water well construction documents shall be submitted to the Department within 30 days of the completion of any well and prior to the initiation of any withdrawal from the well. 9VAC25-610-140 C. The assigned DEQ Well number shall be included

on all well documents. 9VAC25-610-140 C

6. In addition to the above requirements, if required by Part II of this Special Exception, construction of a Water Level Monitoring State Observation Well (SOW) requires:
 - a. The Special Exception Holder shall coordinate activities with the Department's Groundwater Characterization Program (GWCP) to determine the appropriate observation well location and construction schedule, along with the needed screen interval(s), and other completion details following review of geophysical logging. 9VAC25-610-140 C
 - b. Prior to preparation of bid documents for construction of the observation well, the Special Exception Holder shall notify the Department and shall include any GWCP requirements in the bid documents. At a minimum, the Department will require a pre-bid meeting with interested drilling contractors and a pre-construction meeting with the successful bidder. 9VAC25-610-140 C
 - c. Instrumentation to meet the requirements for real-time data transmission consistent with the State Observation Well Network shall be purchased by the Special Exception Holder. The Special Exception Holder shall submit a purchase order based on the Department's equipment specifications for review and approval prior to purchase of the equipment. The Special Exception Holder shall not be required to install the equipment. 9VAC25-610-140 C
7. In addition to the above requirements, if required by Part II of this Special Exception, construction of a Chloride Monitoring SOW requires:
 - a. The Special Exception Holder shall coordinate activities with the Department's Groundwater Characterization Program (GWCP) to determine the appropriate observation well location and construction schedule, along with the needed screen interval(s), and other completion details following review of geophysical logging. 9VAC25-610-140 C
 - b. Prior to preparation of bid documents for construction of the observation well, the Special Exception Holder shall notify the Department and shall include any GWCP requirements in the bid documents. At a minimum, the Department will require a pre-bid meeting with interested drilling contractors and a pre-construction meeting with the successful bidder. 9VAC25-610-140 C
 - c. Instrumentation to meet the requirements for real-time data transmission consistent with the State Observation Well Network shall be purchased by the Special Exception Holder. The Special Exception Holder shall submit a purchase order based on the Department's equipment specifications for review and approval prior to purchase of the equipment. The Special Exception Holder shall not be required to install the equipment. 9VAC25-610-140 C
 - d. Instrumentation to meet the requirements for continuous measurement of specific conductance from multiple levels within the well screen shall be purchased by the Special Exception Holder. The Special Exception Holder shall submit a purchase order based on the Department's equipment specifications for review and approval prior to purchase of the equipment. The Special Exception Holder shall not be required to install the equipment. 9VAC25-610-140 C

L. Special Exception Reopening

This Special Exception may be reopened for the purpose of modifying the conditions of the Special Exception as follows:

- a. To meet new regulatory standards duly adopted by the Board. 9VAC25-610-140 A 11
- b. When new information becomes available about the withdrawal, or the impact of the withdrawal, which had not been available at Special Exception issuance and would have justified the application of different conditions at the time of issuance. 9VAC25-610-310 B 1
- c. When the reported withdrawal is less than 60% of the authorized withdrawal amount for a five year period. 9VAC25-610-310 B 2
- d. If monitoring information indicates the potential for adverse impacts to groundwater quality or level due to this withdrawal. 9VAC25-610-140 C